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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/056,789	01/24/2002	Milosh Koprivica	981458	9432

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EXAMINER	
DUONG, OANH L	
ART UNIT	**PAPER NUMBER**
2155	

DATE MAILED: 01/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

E

Office Action Summary	Application No.	Applicant(s)	
	10/056,789	KOPRIVICA, MILOSH	
	Examiner	Art Unit	
	Oanh Duong	2155	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *03* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 October 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10/28/2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-13 are presented for examination.

Drawings Objection

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "without sending an acknowledge signal back to the transmitter" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

3. Claim 1 are objected to because of the following informalities:

Claim 1 recites the limitations "the message" in line 4, and "the at least one recipients" in line 13. There are insufficient antecedent basis for those limitations in the claim.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4, Claims 1-8 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kapoor (US 5,818,852).

Regarding claim 1, Kapoor teaches a method for reliable unacknowledged communication of long length data messages transmitted in the presence of interference (Fig. Fig. 6), the method comprising the steps of:

dividing contents of the message into a plurality of subpackets of predetermined size (i.e., subdivides the frame of data into subframes, col. 2 lines 64-65);

incorporating a subpacket error detection field into the plurality of subpackets (i.e., the error detecting code, which is generated for each of plurality of subframes, may be put at the end of the segment, col. 2 lines 7-9 and col. 3 lines 6-7);

calculating a message integrity field indicative of the contents of the plurality of the subpackets (i.e., the checksum error code is generated for the entire data packet frame, col. 2 lines 7-9);

transmitting the plurality of subpackets and the message integrity field to at least one recipient over a communications link multiple times (i.e., packetized data is sent in subframes and the data packet is resent until each subframe for a frame has been correctly received at least once, col. 4 lines 13-16);

storing the plurality of subpackets by the at least one recipient when the subpacket error detection field of the subpacket received by the at least one recipients indicates that it has been received without error (i.e., storing subframes which have been received without error, col. 2 lines 56-57);

calculating a message integrity field value of the stored subpackets (i.e., calculate checksum over the frame, col. 3 lines 41-42);

determining that the message has been correctly communicated when the message integrity field value of the stored subpackets corresponds to the transmitted message integrity field without a need of sending back an acknowledged signal (i.e., "method 500 checks the error codes of both the frame and header by calculating a checksum, for example, over the frame and comparing it to the checksum code with has been transmitted along with the frame. If an error is detected in step 502, method 500

returns to step 501 and no acknowledgement signal is sent to transmitter 10, col. 3 lines 23-46).

Regarding claim 2, Kapoor teaches the method of claim 1, where the subpacket error detection field is comprised of a cyclical redundancy check based upon the subpacket contents (i.e., checksum, col. 3 line 43)

Regarding claim 3, Kapoor teaches the method of claim 1, in which the message integrity field is calculated based upon the entirety of the contents of the subpackets (i.e., calculating a checksum over the frame, col. 3 lines 41-42).

Regarding claim 4, Kapoor teaches the method of claim 1, in which the message integrity field is calculated based upon the contents of the long length data message (i.e., a checksum error code is generated for the entire data packet frame, col. 2 lines 7-9).

Regarding claim 5, Kapoor teaches the method of claim 1,

Kapoor does not explicitly teach message integrity field is calculated based upon the subpacket error detection fields.

Kapoor teaches an error detecting code is calculated over each subframe (col. 3 lines 5-6).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Kapoor to calculate the message integrity filed based on the error detecting code calculated over each subframe. One would be motivated to do so to reduce the time to calculate the message integrity by using previously created error detecting codes of subframes.

Regarding claim 6, Kapoor teaches the method of claim 1, in which the message integrity field is calculated based upon the contents of each subpacket other than the subpacket in which the message integrity field is stored (i.e., the checksum is generated for entire data frame, col. 2lines 7-9).

Regarding claim 7, Kapoor teaches the method of claim 4, in which the message integrity field is stored within at least one of the plurality of subpackets (i.e., the checksum may be put at the end of the segment, col. 3 lines 6-7).

Regarding claim 8, Kapoor teaches the method of claim 1,

Kapoor teaches the message integrity field is stored within one of the plurality of subpackets (i.e., the error detection code may be put at the end of the segment, col. 3 lines 6-7).

Kapoor does not explicitly teach the message integrity field is calculated based upon the subpacket error detection fields.

Kapoor teaches an error detecting code is calculated over each subframe (col. 3

lines 5-6). Kapoor further teaches a checksum error code is generated for the entire data packet frame, col. 2 lines 7-9).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Kapoor to calculate the message integrity filed (or checksum error code) based on the error detecting code calculated over each subframe. One would be motivated to do so to reduce the time to calculate the message integrity by using previously created error detecting codes of subframes.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kapoor in view of Admitted Prior Art (APA).

Regarding claim 9, Kapoor teaches the method of claim 1,

Kapoor does not explicitly teach the communications link is based on a frequency hopping protocol, and each subpacket is transmitted on a different carrier frequency.

APA teaches the communications link is based on a frequency hopping protocol, and each subpacket is transmitted on a different carrier frequency. (Fig. 4, page 10 lines 18-22)

It would have been obvious to one of ordinary skill in the art the time of the invention to incorporate a frequency hopping spread spectrum communication link of APA in the process of packetized data transferring in Kapoor. One would be motivated to do so to reduce noise and interference over the transmissions.

Regarding claim 10, Kapoor teaches system comprising:

a plurality of subpackets into which the contents of the long length data packet are divided (i.e., subdivides the frame of data into subframes, col. 2 lines 64-65), each subpacket including an error detection field for evaluating an accuracy of that particular subpacket when transmitted (i.e., a checksum error code is generated for each of the plurality of subframes, col. 2 lines 7-8);

a message integrity field included in at least one of the plurality of subpackets (i.e., a checksum error code may be put at the end of the segment, col. 2 lines 9-10), which field is calculated to include compressed information describing the data contained within the plurality of subpackets (i.e., all segments of a frame are verified by an encoding process, col. 3 lines 10-11);

a transmitter that transmits each of the subpackets two or more times (i.e., the packet data is resent until each subframe for a frame has been correctly received, col. 4 lines 15-16);

at least one receives that receives and demodulates the transmitted subpackets (i.e., receiver 20, Fig 1 col. 2 lines);

a memory register associated with the receiver into which accurately received subpackets are stored (i.e., storage such as for storing subframes which have been received without error, col. 2 lines 56-57);

a packet completion evaluator which performs a calculation by which a message integrity value is determined based upon the contents of the memory register, and indicates that a long length data packet has been correctly received when the result of the calculation matches the message integrity field received in the transmitted subpackets (i.e., calculating the checksum over the frame and comparing it to the checksum code which has been transmitted along with the frame, col. 3 lines 41-44);

whereby the data within the correctly received long length data packet is subsequently processed by the receiver (i.e., frame is constructed from subframes which do not contain errors, col. 4 lines 17-18) without sending an acknowledge signal back to the transmitter (i.e., "if an error is detected in step 502, method 500 returns to step 501 and no acknowledgement signal is sent to transmitter. The result is that transmitter 10 will retransmit the frame of information to receiver 20 after expiration of its timer", col. 3 lines 36-48).

Kapoor does not explicitly teach a transmitter that broadcasts each of the subpackets two or more times in accordance with a frequency hopping protocol.

However, APA teaches a transmitter that broadcasts each of the subpackets two or more times in accordance with a frequency hopping protocol (Fig. 4 page 10 line 18-page 11 line 10).

It would have been obvious to one of ordinary skill in the art the time of the invention to modify Kapoor to broadcast each of the subpackets two or more times in according with frequency hopping protocol as in APA. One would be motivated to do so to reduce noise and interference over the transmissions.

Regarding claim 11, Kapoor teaches the system of claim 10, in which the message integrity field is calculated based upon the content of the long length data packet (i.e., a checksum error code is generated for the entire data packet frame, col. 2 lines 7-9).

Regarding claim 12, Kapoor teaches the system of claim 10,

Kapoor does not explicitly teach the message integrity field is calculated based upon the subpacket error detection fields of the subpackets other than the subpacket in which the message integrity field is included.

Kapoor teaches an error detecting code is calculated over each subframe (col. 3 lines 5-6). Kapoor further teaches a checksum error code is generated for the entire data packet frame, col. 2 lines 7-9).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Kapoor to calculate the message integrity filed (or error checksum

code) based on the error detecting code calculated over each subframe. One would be motivated to do so to reduce the time to calculate the message integrity (or error checksum code) by using previously created error detecting codes of subframes.

Regarding claim 13. Kapoor-APA teaches the system of claim 10 wherein the transmitter broadcasts the subpackets in accordance with a frequency hopping protocol (APA, Fig. 4 page 10 line 18-page 11 line 10).

Response to Arguments

6. Applicant's arguments filed 10/28/2005 have been fully considered but they are not persuasive.

In the remarks, applicant argued in substances that

(A) Prior art fails to teach or suggest without sending back an acknowledge signal back to the transmitter.

As to point (A), examiner has given the broadest reasonable interpretation of "without sending back an acknowledge signal back to the transmitter" as "without requiring retransmission request" in view of the specification of the invention. Kapoor teaches, "if an error is detected in step 502, method 500 returns to step 501 and no acknowledgement signal is sent to transmitter. The result is that transmitter 10 will retransmit the frame of information to receiver 20 after expiration of its timer" (col. 3 lines 36-48). Thus, Kapoor does teach without sending back an acknowledge signal back to the transmitter as defined in the specification.

As a result, the cited prior arts do disclose method and system for reliable unacknowledged communication of long length data message as broadly claimed by the applicants. Applicants clearly have still failed to identify specific claim limitations that would define a clearly patentable distinction over prior arts.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Oanh Duong whose telephone number is (571) 272-3983. The examiner can normally be reached on Monday- Friday, 2:00PM - 10:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar can be reached on (571) 272-4006. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

O.D
January 9, 2006

SALEH NAJJAR
SUPERVISORY PATENT EXAMINER